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Valley Eye and Laser Center, Inc.  
Dr. Paul Joos Peter Jones Tina Keogh  
4011 Talbot Rd. S. # 210  
Renton, WA 98055  
425-255-4250 or 1-800-325-6498



AMERICAN ACADEMY  
OF OPHTHALMOLOGY  
P.O. Box 7424  
SAN FRANCISCO, CA 94120-7424  
<http://www.eyenet.org>

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# Corneal Transplants



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## New windows for sight

Ophthalmologists (medical eye doctors) perform over 40,000 corneal transplants each year in the United States. Of all transplant surgery done today — including hearts, lungs and kidneys — corneal transplants are by far the most common and successful.

## What is the cornea?

The cornea is the clear front of the eye that covers the colored iris and the round pupil. Light is focused while passing through the cornea so we can see. To stay clear the cornea must be healthy.

## How can an unhealthy cornea affect vision?

If the cornea is damaged it may become swollen or scarred. In either case, its smoothness and clarity may be lost. The scars, swelling or an irregular shape cause the cornea to scatter or distort light, resulting in glare or blurred vision.

A corneal transplant is needed if:

- Vision cannot be corrected satisfactorily;
- Painful swelling cannot be relieved by medications or special contact lenses.

## What conditions may require corneal transplants?

- Corneal failure after other eye surgery, such as cataract surgery;
- Keratoconus, a steep curving of the cornea;
- Hereditary corneal failure, such as Fuchs' dystrophy;
- Scarring after infections, especially after herpes;
- Rejection after first corneal transplant;
- Scarring after injury.

## What happens if you decide to have a corneal transplant?

### *Before surgery*

Once you and your ophthalmologist decide you need a corneal transplant, your name is put on a list at the local eye bank. Usually the wait is short.

Before a cornea is released for transplant, the eye bank tests the human donor for the viruses that cause hepatitis and AIDS. The cornea is carefully checked for clarity.

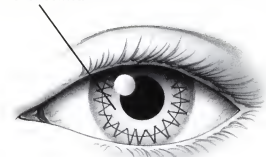
Your ophthalmologist may request that you have a physical examination and other special tests. If you usually take medications, ask your ophthalmologist if you should continue them.

### *The day of surgery*

Surgery is often done on an outpatient basis. You may be asked to skip breakfast, depending on the time of your surgery. Once you arrive for surgery, you will be given eye drops and sometimes medications to help you relax.

The operation is painless. Anesthesia is either local or general, depending on your age, medical condition and eye disease. You will not see the surgery while it is happening, and will not have to worry about keeping your eye open or closed.

Donor cornea



In corneal transplant surgery, the damaged cornea is removed, and a clear donor cornea is sewn into place.

### *The operation*

The eyelid is gently opened. Looking through a surgical microscope, the ophthalmologist measures the eye for the size for the corneal transplant.

The diseased or injured cornea is carefully removed from the eye. Any necessary additional work within the eye, such as removal of a cataract, is completed. Then the clear donor cornea is sewn into place.

When the operation is over, the ophthalmologist will usually place a shield over your eye.

### *After surgery*

If you are an outpatient, you may go home after a short stay in the recovery area. You should plan to have someone else drive you home. An examination at the doctor's office will be scheduled for the following day.

You will need to:

- Use the eye drops as prescribed;
- Be careful not to rub or press on your eye;
- Use over-the-counter pain medicine, if necessary;
- Continue normal daily activities except exercise;
- Ask your doctor when you can begin driving;
- Wear eyeglasses or an eye shield as advised by your doctor.

Your ophthalmologist will decide when to remove the stitches, depending upon the health of the eye and rate of healing.

Usually, it will be several months, at least, before stitches are removed.

### What complications can occur?

Corneal transplants are rejected 5% to 30% of the time. The rejected cornea clouds and vision deteriorates.

Most rejections, if treated promptly, can be stopped with minimal injury. Warning signs of rejection are:

- Persistent discomfort;
- Light sensitivity;
- Redness;
- Change in vision.

Any of these symptoms should be reported to your ophthalmologist promptly.

Other possible complications include:

- Infection;
- Bleeding;
- Swelling or detachment of the retina;
- Glaucoma.

All of these complications can be treated.

A corneal transplant can be repeated, usually with good results, but the overall rejection rates for repeated transplants are higher than for the first time around.

Irregular curvature of the transplanted cornea (astigmatism) may slow the return of vision but can also be treated. Vision may continue to improve up to a year after surgery.

Even if the surgery is successful, any other eye conditions, such as macular degeneration (aging of the retina), glaucoma or diabetic damage, may limit vision after surgery. Even with such problems, corneal transplantation may still be worthwhile.

A successful corneal transplant requires care and attention on the part of both patient and physician. However, no other surgery has so much to offer when the cornea is deeply scarred or swollen. The vast majority of people who undergo corneal transplants are happy with their improved vision.

Of course, corneal transplant surgery would not be possible without the hundreds of thousands of generous donors and their families who have donated corneal tissue so that others may see.